



# ESDR Summer School: Skin Microbiota

Resident Course | 20-24 September 2022 | Lausanne, Switzerland

## Description

There is emerging evidence for a role of commensal microbiota in maintaining skin health and for how alterations in its composition may drive skin diseases. In this course, we will illustrate these physiological and pathophysiological mechanisms and provide practical training on how to harvest and analyze the human skin microbiota.

## Learning Objectives:

1. To understand the mechanisms for how the skin microbiota maintains skin health and how it is involved in cutaneous diseases.
2. To gain practical knowledge on how to harvest, process and analyze human skin microbiota
3. To understand the concepts of skin microbiota modulation for the treatment of skin diseases

## Faculty Members

Chairs: Michel Gilliet and Jeremy Di Domizio  
Speakers/tutors: Bernard Homey, Claudia Hülpüsch, Brigitte Dréno, Christoph Schlapbach, Bernhard Paetzold, Bjorn Andersson, Raphael Gottardo, Vassili Soumelis, Niki Ubags, Curdin Conrad, Claire Bertelli

## Venues

Morning Lecture: Beaulieu Lausanne in Av. Bergières 10, 1004 Lausanne  
Afternoon Labs: CHUV labs at the biopole site chemin des boveresses 155

## Programme

### Tuesday 20 September 2022

Chaired by Prof. Michel Gilliet

9:00 – 9:40 Microbiota and skin: challenges and opportunities | *Michel Gilliet*  
9:40 – 10:40 Students presentations  
10:40 – 11:15 **Coffee Break**  
11:15 – 11:55 Skin dysbiosis in atopic dermatitis | *Bernard Homey*  
11:55 – 12:35 Sampling techniques and characterization of the skin microbiome | *Claudia Hülpüsch*  
12:35 – 14:00 **Lunch break and transfer to CHUV labs**  
14:00 – 18:00 Performing skin swabs  
Total DNA extraction

### Wednesday 21 September 2022

Chaired by Dr. Curdin Conrad

9:00 – 9:40 Skin dysbiosis in acne | *Brigitte Dréno*  
9:40 – 10:40 Students presentations  
10:40 – 11:15 **Coffee Break**  
11:15 – 11:55 Skin dysbiosis in rosacea | *Curdin Conrad*  
11:55 – 14:00 **Lunch break transfer to CHUV labs**  
14:00 – 18:00 16S amplification  
Plating and culture of skin swabs

## Thursday 22 September 2022

Chaired by Dr. Christoph Schlapbach

09:00 – 09:40 Role of skin microbiota beyond the skin | *Niki Ubags*

09:40 – 10:40 Students presentation

10:40 – 11:15 Coffee Break

11:15 – 11:55 Innate immunity to skin microbiota | *Jeremy Di Domizio*

11:55 – 12:35 Adaptive immunity to skin microbiota | *Christoph Schlapbach*

12:35 – 14:00 Lunch break transfer to CHUV labs

14:00 – 18:00 Bacterial plates analysis

16S product verification and purification

Library preparation for Sequencing

20:00 Social Dinner at Ristorante Il Lido

## Friday 23 September 2022

Chaired by Dr. Jeremy Di Domizio

09:00 – 09:40 Therapeutic correction of skin dysbiosis | *Bernhard Paetzold*

09:40 – 10:40 Students presentations

10:40 – 11:15 Coffee Break

11:15 – 11:55 Skin virome | *Bjorn Andersson*

11:55 – 14:00 Lunch break and transfer to CHUV labs

14:00 – 18:00 16S sequencing analysis

Comparing cultures to sequencing

## Saturday 24 September 2022

Chaired by Prof. Michel Gilliet

09:00 – 09:40 Dealing with the complexity of microbiome and omics data |

*Raphael Gottardo*

09:40 – 10:40 Personalized approaches for skin disease: the industry perspective |

*Vassili Soumelis*

10:40 – 11:00 Coffee Break

11:00 – 11:20 Conclusions and farewell by *Michel Gilliet and Jeremy Di Domizio*

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